

Title (en)
TOUCH SCREEN DISPLAY DEVICE

Title (de)
ANZEIGEVORRICHTUNG MIT BERÜHRUNGSBILDSCHIRM

Title (fr)
DISPOSITIF D'AFFICHAGE À ÉCRAN TACTILE

Publication
EP 2483762 B1 20151111 (EN)

Application
EP 10760741 A 20100901

Priority
• GB 0915460 A 20090904
• GB 2010001655 W 20100901

Abstract (en)
[origin: GB2473239A] A touch screen display device which can discriminate between near field objects and touching objects, includes a plurality of display pixels (22), a plurality of emitters (23, 24) of electromagnetic radiation, particularly light, and a plurality of detectors (25, 26, 27) for detecting light. The light from the emitters (23, 24) is coupled into a transparent substrate (28) so as to reach a front surface (33) which transmits light incident at an angle smaller than a critical angle for the transparent substrate (28) and totally internally reflects light which is incident at an angle greater than the critical angle. Processing apparatus (37, 38, 39) coupled to the emitters (23, 24) and detectors (25, 26, 27) measures the intensity of light reaching each detector (25, 26, 27) from different specific emitters (23, 24) and determines when the intensity of the light received by each detector (25, 26, 27) is influenced by reflection from a near-field object and/or frustration of the total internal reflection by a touching object. From this data the position of the object can be determined.

IPC 8 full level
G06F 3/042 (2006.01); **G06F 3/041** (2006.01)

CPC (source: EP GB KR US)
G06F 3/0304 (2013.01 - KR); **G06F 3/0412** (2013.01 - EP GB KR US); **G06F 3/0416** (2013.01 - KR); **G06F 3/042** (2013.01 - EP US); **G06F 3/0421** (2013.01 - GB KR); **H10K 59/40** (2023.02 - KR); **G06F 2203/04109** (2013.01 - EP KR US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)
GB 0915460 D0 20091007; **GB 2473239 A 20110309**; **GB 2473239 B 20140709**; BR 112012004837 A2 20160315; CN 102483671 A 20120530; CN 102483671 B 20150114; EP 2483762 A1 20120808; EP 2483762 B1 20151111; EP 2483762 B8 20151223; JP 2013504108 A 20130204; JP 5785547 B2 20150930; KR 20120073269 A 20120704; RU 2012112956 A 20131010; US 2012188188 A1 20120726; US 9323373 B2 20160426; WO 2011027111 A1 20110310; WO 2011027111 A8 20110901

DOCDB simple family (application)
GB 0915460 A 20090904; BR 112012004837 A 20100901; CN 201080039031 A 20100901; EP 10760741 A 20100901; GB 2010001655 W 20100901; JP 2012527379 A 20100901; KR 20127008607 A 20100901; RU 2012112956 A 20100901; US 201013391960 A 20100901